

(19) World Intellectual Property  
Organization  
International Bureau



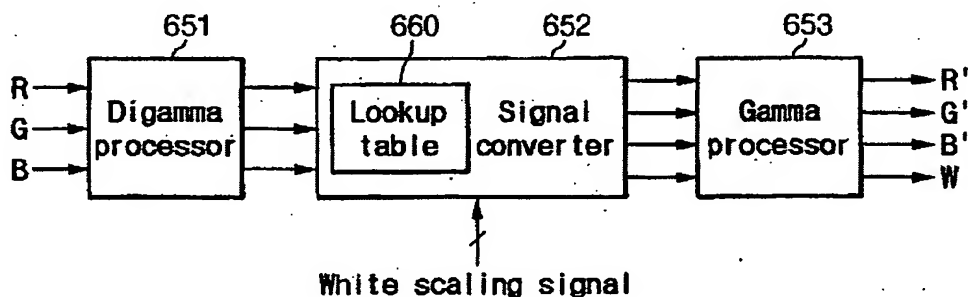
(43) International Publication Date  
21 July 2005 (21.07.2005)

PCT

(10) International Publication Number  
**WO 2005/066700 A1**

- (51) International Patent Classification<sup>7</sup>: G02F 1/133 (74) Agent: YOU ME PATENT AND LAW FIRM; Seolim Bldg., 649-10 Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).
- (21) International Application Number: PCT/KR2005/000030 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 6 January 2005 (06.01.2005)
- (25) Filing Language: Korean
- (26) Publication Language: English
- (30) Priority Data:  
10-2004-0000548 6 January 2004 (06.01.2004) KR (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (for all designated States except US): SAM-SUNG ELECTRONICS CO., LTD. [KR/KR]; 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 442-742 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): JEONG, Ho-Yong [KR/KR]; Samsung 1-cha Apt. 5-912, Mantan 4-dong, Paldal-gu, Suwon-si, Gyeonggi-do 442-718 (KR). PARK, Cheol-Woo [KR/KR]; Hanguk 1-cha Apt. 102-601, Maetan 2-dong, Paldal-gu, Suwon-si, Gyeonggi-do 442-372 (KR).
- Published:  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS AND METHOD OF CONVERTING IMAGE SIGNAL FOR FOUR COLOR DISPLAY DEVICE



(57) Abstract: An apparatus of converting three color image signals into four color image signals having a white signal is provided, which includes: a lookup table storing a plurality of white scaling factors and a signal converter selecting a corresponding white scaling factor of the white scaling factors stored in the lookup table based on a white scaling signal from an external, converting the three color image signals into the four color image signals based on the selected white scaling factor. Like this, by converting into the four color image signals using the selected white scaling factor based on the white scaling signal from the external, the white scaling factor may be varied without change of a device in which conversion algorithm is stored, thereby manufacturing cost decreases. In addition, without usage of a white scaling factor fixed into a value, the three color image signals are converted into the four color image signals by using a white scaling factor suitable for characteristics of an LCD, thereby the operation accuracy of the LCD is improved.